2SD968, 2SD968A

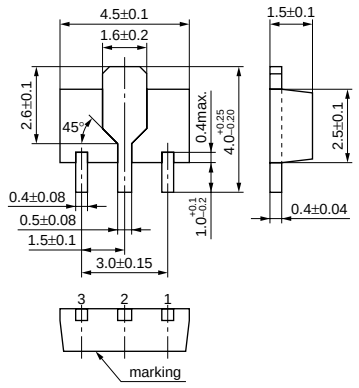
Silicon NPN epitaxial planer type

For low-frequency driver amplification
Complementary to 2SB789 and 2SB789A

Features

- High collector to emitter voltage V_{CEO}.
- Large collector power dissipation P_C.
- Mini Power type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

Unit: mm



1:Base
2:Collector
3:Emitter

EIAJ:SC–62
Mini Power Type Package

Marking symbol : W(2SD968)
V(2SD968A)

Absolute Maximum Ratings (Ta=25˚C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage	2SD968	V_{CBO}	100	V
	2SD968A		120	
Collector to emitter voltage	2SD968	V_{CEO}	100	V
	2SD968A		120	
Emitter to base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	1	A
Collector current		I_C	0.5	A
Collector power dissipation		P_C*	1	W
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	–55 ~ +150	˚C

* Printed circuit board: Copper foil area of 1cm^2 or more, and the board thickness of 1.7mm for the collector portion

Electrical Characteristics (Ta=25˚C)

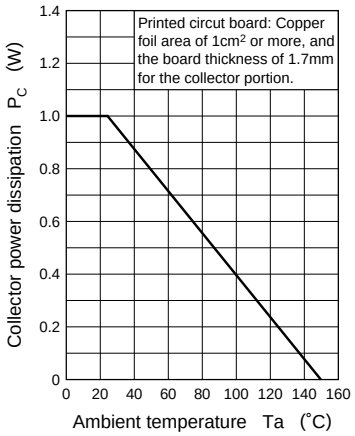
Parameter		Symbol	Conditions	min	typ	max	Unit
Collector to emitter voltage	2SD968	V_{CEO}	I_C = 100μA, I_B = 0	100			V
	2SD968A			120			
Emitter to base voltage		V_{EBO}	I_E = 10μA, I_C = 0	5			V
Forward current transfer ratio		h_{FE1}*1	V_{CE} = 10V, I_C = 150mA*2	90		220	
		h_{FE2}	V_{CE} = 5V, I_C = 500mA*2	50	100		
Collector to emitter saturation voltage		$V_{CE(sat)}$	I_C = 500mA, I_B = 50mA*2		0.2	0.6	V
Base to emitter saturation voltage		$V_{BE(sat)}$	I_C = 500mA, I_B = 50mA*2		0.85	1.2	V
Transition frequency		f_T	V_{CB} = 10V, I_E = –50mA, f = 200MHz		120		MHz
Collector output capacitance		C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz		11	20	pF

*2 Pulse measurement

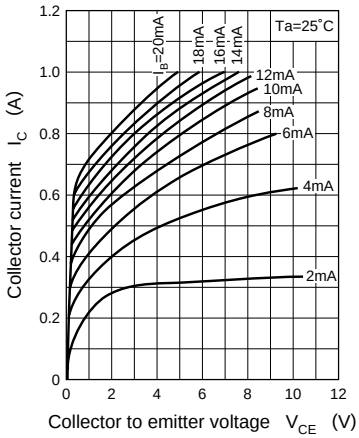
*1h_{FE1} Rank classification

Rank		Q	R
h_{FE1}		90 ~ 155	130 ~ 220
Marking Symbol	2SD968	WQ	WR
	2SD968A	VQ	VR

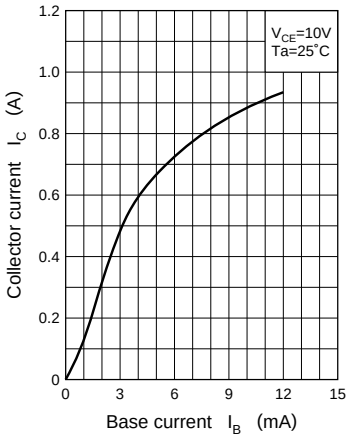
P_C — Ta



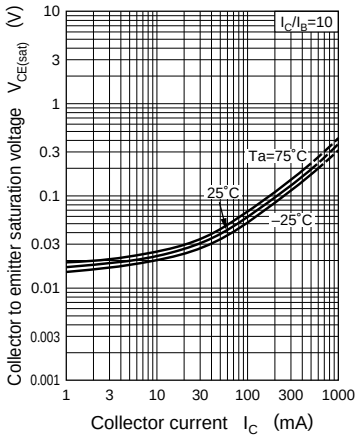
I_C — V_{CE}



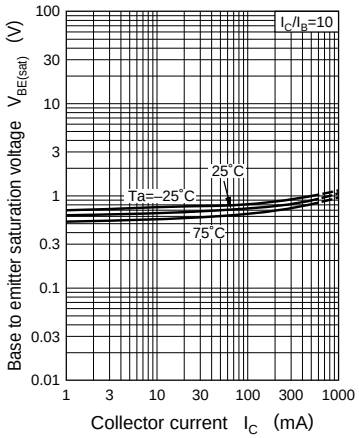
I_C — I_B



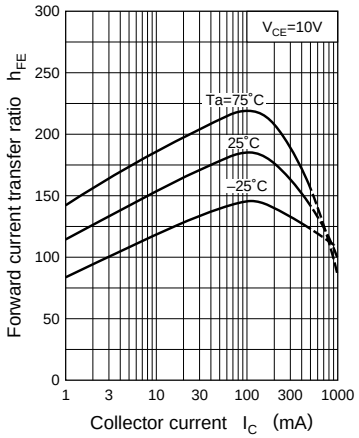
$V_{CE(sat)}$ — I_C



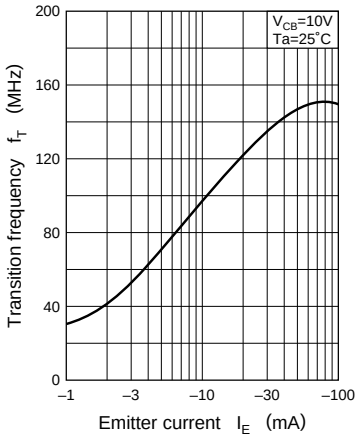
$V_{BE(sat)}$ — I_C



h_{FE} — I_C



f_T — I_E



C_{ob} — V_{CB}